

IN THE ABSTRACT:

Replace the Abstract with:

ABSTRACT OF THE DISCLOSURE

An optical waveguide ridge has a side with a flat portion extending uniformly from a top of the ridge to a surface of a semiconductor substrate, the flat portion being in contact with an exposed surface of the substrate. A p-type electrode extends from the top of the optical waveguide ridge downward in contact with a dielectric film on the flat portion of the optical waveguide ridge. The p-type electrode further extends over the dielectric film onto the exposed surface of the semiconductor substrate where an end of the electrode is a bonding pad.